

In the Specification

Please replace the paragraph at page 21, lines 7-8 with the following paragraph:

~~Figs. 53A and 53B~~ Figs. 53A-1, 53A-2, 53B-1 and 53B-2 are circuit diagrams for an analog portion of the reflectometer of the present invention as show in Figs. 52A and 52B, respectively;

Please replace the paragraph at page 59, lincs 16-18 with the following paragraph:

Reference is now made to ~~Figs. 53A and 53B~~ Figs. 53A-1, 53A-2, 53B-1 and 53B-2 wherein there are shown circuit diagrams for an analog portion of the reflectometer of the present invention, as illustrated in Figs. 52A and 52B.

Please replace the paragraph at page 64, lines 1-3 with the following paragraph:

With reference now once again to ~~Figs. 53A and 53B~~ Figs. 53A-1, 53A-2, 53B-1 and 53B-2, the output signal 12600 on line 20800 is filtered by an R-C first order low pass filter to remove the slight negative spikes 21600 within the waveform 22000.

Please replace the paragraph at page 68, lines 5-8 with the following paragraph:

This series diode 23000' compensation scheme may also be utilized in combination with the diode 23000 sensor configuration illustrated in ~~Figs. 53A and 53B~~ Figs. 53A-1, 53A-2, 53B-1 and 53B-2 to provide for improved temperature detection and compensation.

Please replace the paragraph beginning at page 68, line 25 through page 69, line 2 with the following paragraph:

With reference now once again to ~~Fig. 53A and 53B~~ Figs. 53A-1, 53A-2, 53B-1 and 53B-2, a fourth temperature sensing mechanism useful in compensating for temperature advantageously utilizes the synchronous detector DC level shifting diode 23800 to measure temperature by sensing the voltage drop across the diode.

Please replace the paragraph at page 74, lines 22-24 with the following paragraph:

Reference is now made to ~~Figs. 53A and 53B~~ Figs. 53A-1, 53A-2, 53B-1 and 53B-2 and to Fig. 60 wherein there is shown a flow diagram illustrating a process for performing a first order calibration of the reflectometer 3000/3000'.